

SAFETY DATA SHEET



STEADFAST IS

Version 1.0 Revision Date: 05/02/2022 SDS Number: 800080006086 Date of last issue: -
Date of first issue: 05/02/2022

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : STEADFAST IS
Other means of identification : No data available

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : CORTEVA AGRISCIENCE CANADA COMPANY
#2450, 215 - 2ND STREET S.W.
CALGARY AB, T2P 1M4
CANADA

Customer Information Number : 800-667-3852
E-mail address : solutions@corteva.com

Emergency telephone number : CANUTEC
1-888-226-8832

Recommended use of the chemical and restrictions on use


Recommended use : Herbicide
Restrictions on use : Do not use product for anything outside of the above specified uses.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Eye irritation : Category 2A
Skin sensitisation : Sub-category 1B

GHS label elements

Hazard pictograms : 

Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

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Precautionary statements : **Prevention:**
P261 Avoid breathing dust.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate	ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate	163520-33-0	8.3
Nicosulfuron	Nicosulfuron	111991-09-4	25.2
Rimsulfuron	Rimsulfuron	122931-48-0	12.5
Kaolin	Kaolin	1332-58-7	$\geq 10 - < 20$ *
Sucrose	Sucrose	57-50-1	$\geq 3 - < 10$ *
Lignin, Alkali, Reaction Products with Disodium Sulfite and Formaldehyde	Lignin, Alkali, Reaction Products with Disodium Sulfite and Formaldehyde	105859-97-0	$\geq 3 - < 10$ *
Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt	Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5	$\geq 1 - < 3$ *
Benzenesulfonic acid, dodecyl-, branched, sodium salt	Benzenesulfonic acid, dodecyl-, branched, sodium salt	69227-09-4	$\geq 1 - < 3$ *
Balance	Balance	Not Assigned	> 5

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* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- If inhaled : Move to fresh air.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Call a poison control center or doctor for treatment advice.
- In case of skin contact : Take off all contaminated clothing immediately.
Rinse skin immediately with plenty of water for 15-20 minutes.
Call a poison control center or doctor for treatment advice.
- In case of eye contact : Hold eye open and rinse slowly and gently with water for 15-20 minutes.
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Call a poison control center or doctor for treatment advice.
- If swallowed : No specific intervention is indicated as the compound is not likely to be hazardous.
Consult a physician if necessary.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.
-

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
- Unsuitable extinguishing media : Dry chemical
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
Applying foam will release significant amounts of hydrogen gas that can be trapped under the foam blanket.
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Combustion products may include and are not limited to:
Carbon oxides
- Specific extinguishing methods : Do not allow extinguishing medium to contact container contents. Most fire extinguishing media will cause hydrogen evolution, and once the fire is put out, may accumulate in poorly ventilated or confined areas and result in flash fire or explosion if ignited.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
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- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Avoid breathing dust.
Use personal protective equipment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
Prevent from entering into soil, ditches, sewers, undewater. See Section 12, Ecological Information.
- Methods and materials for containment and cleaning up : Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.
Pick up and arrange disposal without creating dust.
Recovered material should be stored in a vented container.
The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.
Keep in suitable, closed containers for disposal.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
See Section 13, Disposal Considerations, for additional information.
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SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.

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Avoid contact with skin and eyes.
 Take care to prevent spills, waste and minimize release to the environment.
 Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Conditions for safe storage : Store in a closed container.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Keep in properly labelled containers.
 Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Kaolin	1332-58-7	TWA (Respirable)	2 mg/m3	CA AB OEL
		TWA (Respirable)	2 mg/m3	CA BC OEL
		TWAEV (respirable dust)	2 mg/m3	CA QC OEL
		TWA (Respirable particulate matter)	2 mg/m3	ACGIH
Sucrose	57-50-1	TWA	10 mg/m3	CA AB OEL
		TWA (Total dust)	10 mg/m3	CA BC OEL
		TWA (respirable dust fraction)	3 mg/m3	CA BC OEL
		TWAEV	10 mg/m3	CA QC OEL
		TWA	10 mg/m3	ACGIH

Engineering measures : Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride

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- ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
- Eye protection : Use safety glasses (with side shields).
- Skin and body protection : Applicators and other handlers must wear:
 Long sleeved shirt and long pants
 Chemical-resistant gloves, Category A (such as butyl rubber, naturalrubber, neoprene rubber, or nitrile rubber), all greater than or equalto 14 mils
 Shoes plus socks
 PPE required for early entry to treated areas that is permitted underthe Worker Protection Standard and that involves contact with anythingthat has been treated, such as plants, soil, or water, is:
 Coveralls
 Chemical-resistant gloves, Category A (such as butyl rubber, naturalrubber, neoprene rubber, or nitrile rubber), all greater than or equalto 14 mils
 Shoes plus socks
- Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hotwater. Keep and wash PPE separately from other laundry.
- Hygiene measures : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
 Remove clothing/PPE immediately if material gets inside.
 Wash thoroughly and put on clean clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : solid, granules
- Colour : tan
- Odour : slight
- Odour Threshold : No data available
- pH : 5.3 - 6.3
- Melting point/range : No data available
- Freezing point : Not applicable
- Boiling point/boiling range : Not applicable
- Flash point : Not applicable
- Evaporation rate : Not applicable
- Flammability (solid, gas) : No data available

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Upper explosion limit / Upper flammability limit : Not applicable

Lower explosion limit / Lower flammability limit : Not applicable

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Density : 0.57 - 0.67 g/cm³

Solubility(ies)
Water solubility : No data available

Auto-ignition temperature : Not applicable

Viscosity
Viscosity, dynamic : Not applicable

Explosive properties : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : No decomposition if stored and applied as directed.
Stable under normal conditions.

Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.
None known.

Conditions to avoid : None known.

Incompatible materials : Strong acids
Strong bases

Hazardous decomposition products : Decomposition products depend upon temperature, air supply and the presence of other materials.
Decomposition products can include and are not limited to:
Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

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Components:

ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:

- Acute oral toxicity : LD50 (Rat, male and female): 1,740 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): 5.04 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.

Nicosulfuron:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: US EPA Test Guideline OPP 81-1
- Acute inhalation toxicity : LC50 (Rat): > 5.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: US EPA Test Guideline OPP 81-3
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
Assessment: The substance or mixture has no acute dermal toxicity

Rimsulfuron:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.
- Acute inhalation toxicity : LC50 (Rat): > 205.4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Directive 67/548/EEC, Annex V, B.2.
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: Directive 67/548/EEC, Annex V, B.3.
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Kaolin:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Sucrose:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

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Alkyl-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Acute oral toxicity : LD50 (Rat): > 4,500 mg/kg

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Acute oral toxicity : Remarks: Low toxicity if swallowed.
Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

LD50 (Rat): > 1,000 mg/kg
Method: Estimated.

Acute dermal toxicity : Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50 (Rabbit): > 1,000 mg/kg
Method: Estimated.

Skin corrosion/irritation**Components:****Nicosulfuron:**

Species : Rabbit
Method : US EPA Test Guideline OPP 81-5
Result : No skin irritation

Rimsulfuron:

Species : Rabbit
Method : Directive 67/548/EEC, Annex V, B.4.
Result : No skin irritation

Kaolin:

Species : Rabbit
Result : No skin irritation

Sucrose:

Species : Rabbit
Result : No skin irritation

Alkyl-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species : Rabbit
Result : No skin irritation

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Result : Skin irritation

Serious eye damage/eye irritation**Components:****Nicosulfuron:**

Species : Rabbit
Result : No eye irritation
Method : US EPA Test Guideline OPP 81-4

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Rimsulfuron:

Species : Rabbit
Result : No eye irritation
Method : Directive 67/548/EEC, Annex V, B.5.

Kaolin:

Species : Rabbit
Result : No eye irritation

Sucrose:

Species : Rabbit
Result : No eye irritation

Lignin, Alkali, Reaction Products with Disodium Sulfito and Formaldehyde:

Species : Rabbit
Result : Eye irritation

Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species : Rabbit
Result : Eye irritation

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Result : Corrosive

Respiratory or skin sensitisation**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Species : Guinea pig
Assessment : The product is a skin sensitiser, sub-category 1B.

Nicosulfuron:

Test Type : Buehler Test
Species : Guinea pig
Method : US EPA Test Guideline OPP 81-6
Result : Did not cause sensitisation on laboratory animals.

Rimsulfuron:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Remarks : For skin sensitization:
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

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Germ cell mutagenicity**Components:****Nicosulfuron:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.

Rimsulfuron:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.

Sucrose:

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were inconclusive., Animal genetic toxicity studies were inconclusive

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., In vivo tests did not show genotoxic effects

Carcinogenicity**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Nicosulfuron:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Rimsulfuron:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Kaolin:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Available data suggest that the material is unlikely to cause cancer.

Reproductive toxicity**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Nicosulfuron:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility. Did not show teratogenic effects in animal experiments.

Rimsulfuron:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Development effects were not observed in laboratory animals.

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Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Reproductive toxicity - Assessment : In animal studies, did not interfere with fertility., In animal studies, did not interfere with reproduction.
Has caused birth defects in laboratory animals only at doses toxic to the mother.

STOT - single exposure**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Nicosulfuron:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Rimsulfuron:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Kaolin:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Sucrose:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Repeated dose toxicity**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Remarks : In animals, effects have been reported on the following organs:
Liver.
Kidney.

Nicosulfuron:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Rimsulfuron:

Remarks : In animals, effects have been reported on the following organs:
Liver

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Kaolin:

Remarks : Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration toxicity

Components:

ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:

Based on physical properties, not likely to be an aspiration hazard.

Nicosulfuron:

Based on physical properties, not likely to be an aspiration hazard.

Rimsulfuron:

Based on physical properties, not likely to be an aspiration hazard.

Kaolin:

Based on physical properties, not likely to be an aspiration hazard.

Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Based on physical properties, not likely to be an aspiration hazard.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.34 mg/l
End point: mortality
Exposure time: 96 h
Test Type: flow-through

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.22 mg/l
End point: mortality
Exposure time: 96 h
Test Type: flow-through

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.42 mg/l
Exposure time: 28 d
Test Type: flow-through

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(Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l
End point: Growth rate inhibition
Exposure time: 28 d
Test Type: flow-through

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.38 mg/l
Exposure time: 21 d
Test Type: semi-static test

Ecotoxicology Assessment

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Nicosulfuron:

Toxicity to fish : Remarks: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: US EPA Test Guideline OPP 72-1
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: US EPA Test Guideline OPP 72-2
GLP: yes

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 71.17 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

EbC50 (Anabaena flos-aquae (cyanobacteria)): 41.8 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.3.
GLP: yes

ErC50 (Anabaena flos-aquae (cyanobacteria)): 59.8 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.3.
GLP: yes

EC50 (Lemna gibba (duckweed)): 0.0032 mg/l
Exposure time: 7 d
Method: US EPA Test Guideline OPP 122-2 & 123-2
GLP: yes

M-Factor (Acute aquatic toxicity) : 100

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 24 mg/l
Exposure time: 90 d
Test Type: Early Life-Stage
Method: OECD Test Guideline 210
GLP: yes

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EC50 (Lemna gibba (duckweed)): 0.023 mg/l
End point: Frond
Exposure time: 14 d
Method: US EPA Test Guideline OPP 122-2 & 123-2
GLP: yes

EC50 (Lemna gibba (duckweed)): 0.017 mg/l
End point: Biomass
Exposure time: 14 d
Method: US EPA Test Guideline OPP 122-2 & 123-2
GLP: yes

ErC50 (Anabaena flos-aquae (cyanobacteria)): 5.2 mg/l
Exposure time: 96 h
Method: US EPA Test Guideline OPPTS 850.5400
GLP: yes

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 110 mg/l
Exposure time: 90 d
Test Type: Early Life-Stage
Method: OECD Test Guideline 210
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.82 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 202
GLP: yes

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg
Method: OECD Test Guideline 207
GLP: yes

Toxicity to terrestrial organisms : oral LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg
Method: US EPA Test Guideline OPP 71-1
GLP: yes

oral LD50 (Anas platyrhynchos (Mallard duck)): > 2,000 mg/kg
Method: US EPA Test Guideline OPP 71-1
GLP: yes

dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5,620 mg/kg
Exposure time: 8 d
Method: OECD Test Guideline 205

dietary LC50 (Anas platyrhynchos (Mallard duck)): > 5,620 mg/kg
Exposure time: 8 d
Method: OECD Test Guideline 205

contact LD50 (Apis mellifera (bees)): > 100 µg/b
Method: OEPP/EPPO Test Guideline 170
GLP: yes

oral LD50 (Apis mellifera (bees)): > 1000 mg/b
Method: OEPP/EPPO Test Guideline 170

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Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Sucrose:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: Method Not Specified.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability**Components:****Nicosulfuron:**

Biodegradability : Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.

Rimsulfuron:

Biodegradability : Result: Not readily biodegradable.

Sucrose:

ThOD : 1.12 kg/kg
Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Concentration: 1,500,000 1/cm³
Rate constant: 1.1479E-10 cm³/s
Method: Estimated.

Bioaccumulative potential**Components:****ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate:**

Partition coefficient: n-octanol/water : log Pow: 3.8 (30 °C)

Nicosulfuron:

Bioaccumulation : Remarks: Does not bioaccumulate.
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -1.15
Method: Estimated.
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

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Rimsulfuron:

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Kaolin:

Partition coefficient: n-octanol/water : Remarks: Partitioning from water to n-octanol is not applicable.

Sucrose:

Bioaccumulation : Bioconcentration factor (BCF): 3
Method: Estimated.

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Potential for mobility in soil is very high (Koc between 0 and 50).

log Pow: -3.7 - -3.67

Method: Estimated.

Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Lignin, Alkali, Reaction Products with Disodium Sulfit e and Formaldehyde:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Partition coefficient: n-octanol/water : Remarks: No data available for this product.

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Balance:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Mobility in soil

Components:

Nicosulfuron:

Distribution among environmental compartments : Koc: 33 - 51
Remarks: Under actual use conditions the product has a low potential of mobility in soil.

Sucrose:

Distribution among environmental compartments : Koc: 3.16
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Distribution among environmental compartments : Remarks: No relevant data found.

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Balance:

Distribution among environmental compartments : Remarks: No relevant data found.

Other adverse effects

Components:

Nicosulfuron:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Rimsulfuron:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Kaolin:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Sucrose:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Lignin, Alkali, Reaction Products with Disodium Sulfite and Formaldehyde:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Alkyl-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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Benzenesulfonic acid, dodecyl-, branched, sodium salt:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Balance:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Nicosulfuron, Rimsulfuron)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Nicosulfuron, Rimsulfuron)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956

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IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Nicosulfuron, Rimsulfuron)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes
Remarks : Stowage category A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Nicosulfuron, Rimsulfuron)
Class : 9
Packing group : III
Labels : 9
ERG Code : 171
Marine pollutant : yes(Nicosulfuron, Rimsulfuron)

Further information

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

For Canadian Ground transportation TDG Exemption: 1.45.1 Marine Pollutants (Part 3, Documentation, and Part 4, Dangerous Goods Safety Marks, do not apply if they are in transport solely on land by road vehicle or railway vehicle).

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

DSL : This product contains components that are not listed on the Canadian DSL nor NDSL.

Pest Control Products Act (PCPA) Registration Number : 33369

Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.

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This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act (PCPA). There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control products label:

PCPA Label Hazard Communications:

Read the label and booklet before using. Keep out of reach of children.

Warning, contains the allergens milk and sulfites

This product is toxic to:

Aquatic organisms

Non-target terrestrial plants

SECTION 16. OTHER INFORMATION

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWA	:	Time-weighted average exposure value

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New

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Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 05/02/2022
Date format : mm/dd/yyyy

Product code: GF-4171

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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